

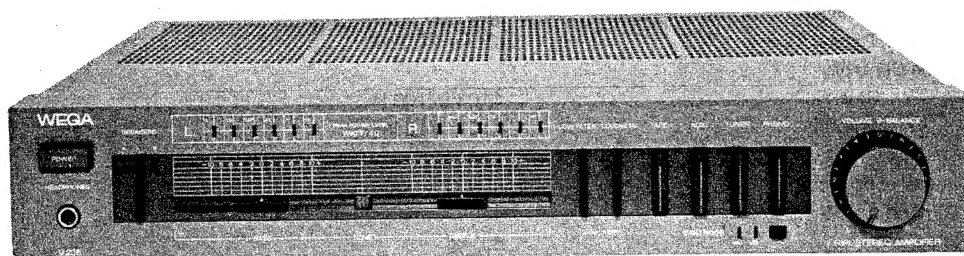
WEGA

HIFI STEREO AMPLIFIER

V235

Service Manual

8/81



CONTENTS

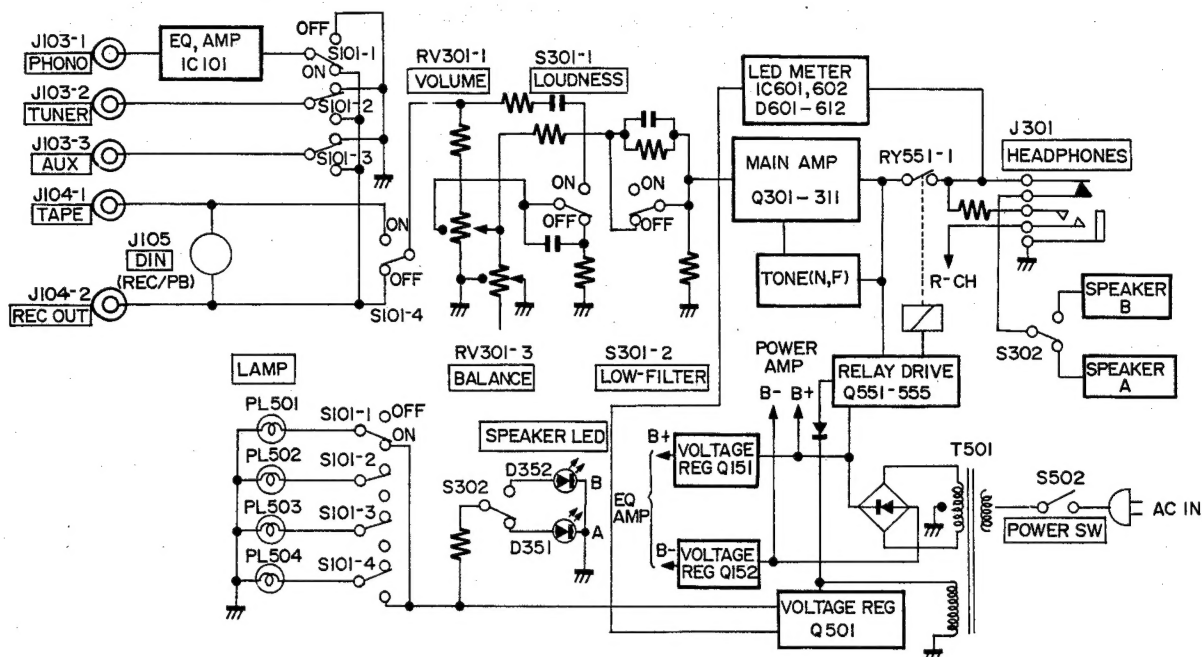
<i>Title</i>	<i>Page</i>
SPECIFICATIONS	2
1. OUTLINE	3
2. DISASSEMBLY	4
3. ELECTRICAL ADJUSTMENT	5
4. DIAGRAMS	
Replacement Semiconductors	7
Schematic Diagram	9 – 10
Mounting Diagrams	11 – 12
Wiring Diagram	13 – 14
5. EXPLODED VIEWS	15 – 16
6. PARTS LIST	
Electrical Parts List	18 – 20
Hardware Nomenclature	22

SPECIFICATIONS

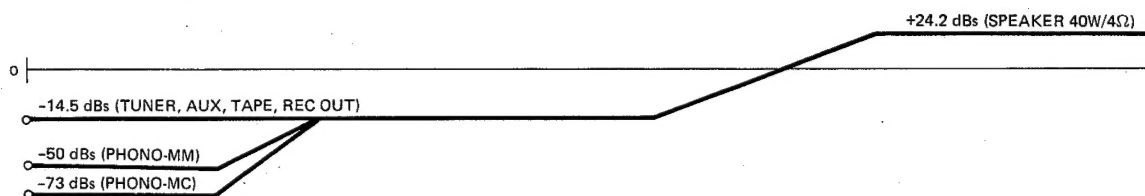
Power Output:	2 x 45W, 4 Ω (1 kHz)
Music Power Output:	2 x 65W, 4 Ω (1 kHz)
Distortion (1 kHz):	0.05 %
Frequency Response:	20 Hz — 20 kHz (40W, 0.1%)
Signal to Noise Ratio:	
Phono MM;	90 dB Weighted A (IHF)
Phono MC;	72 dB Weighted A (IHF)
Tuner;	95 dB Weighted A (IHF)
Tape;	95 dB Weighted A (IHF)
Input Sensitivity:	
Phono MM;	2.5mV/47 k Ω
Phono MC;	0.17mV/100 Ω
Tuner;	150 mV/47 k Ω
Tape;	150 mV/47 k Ω
Tone Control:	
Bass;	± 10 dB/100 Hz
Treble	± 10 dB/10 kHz
Speaker:	4 Ω ...
Power consumption:	300 W
Dimensions (W x H x D):	430 x 80 x 317 mm
Weight:	6.8 kg

SECTION 1 OUTLINE

1-1: Block Diagram



1-2: Level Diagram

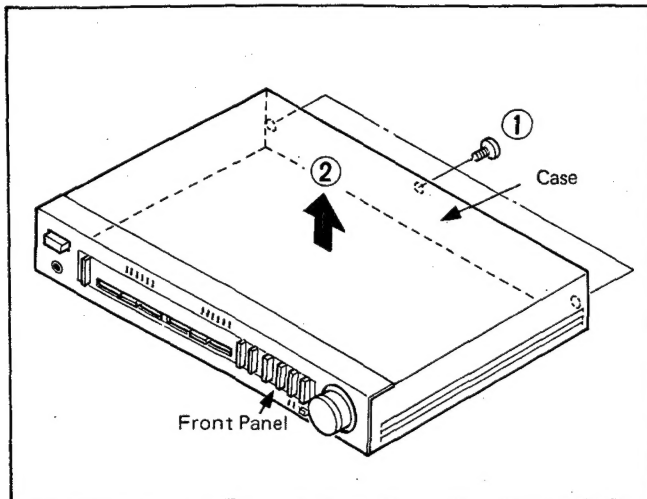


SECTION 2 DISASSEMBLY

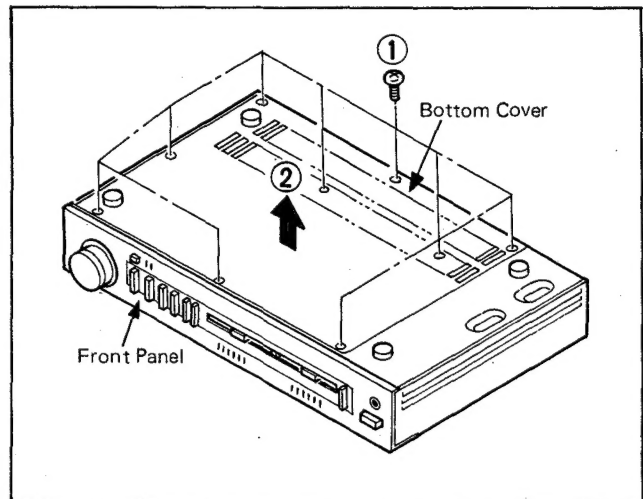
Removal

Follow the disassembly procedure in the numerical order given.

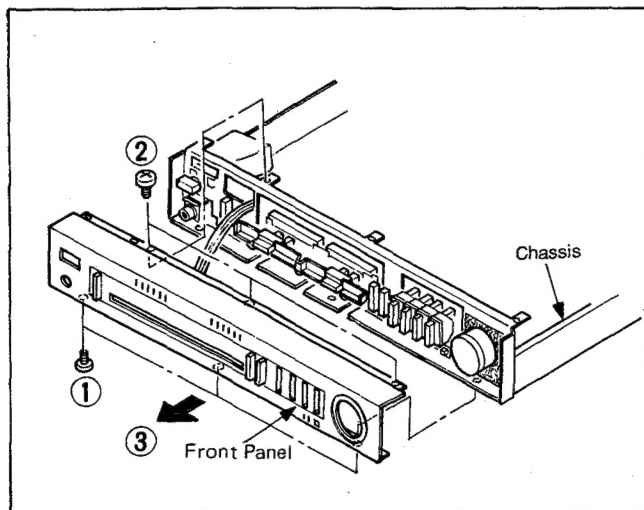
a. Case Removal



b. Bottom Cover Removal



c. Front Panel Removal



SECTION 3 ELECTRICAL ADJUSTMENT

Note:

1. DC bias adjustments should be made several minutes later after the power switch is turned on.
2. After replacing the power transistors, DC bias adjustments should be made.

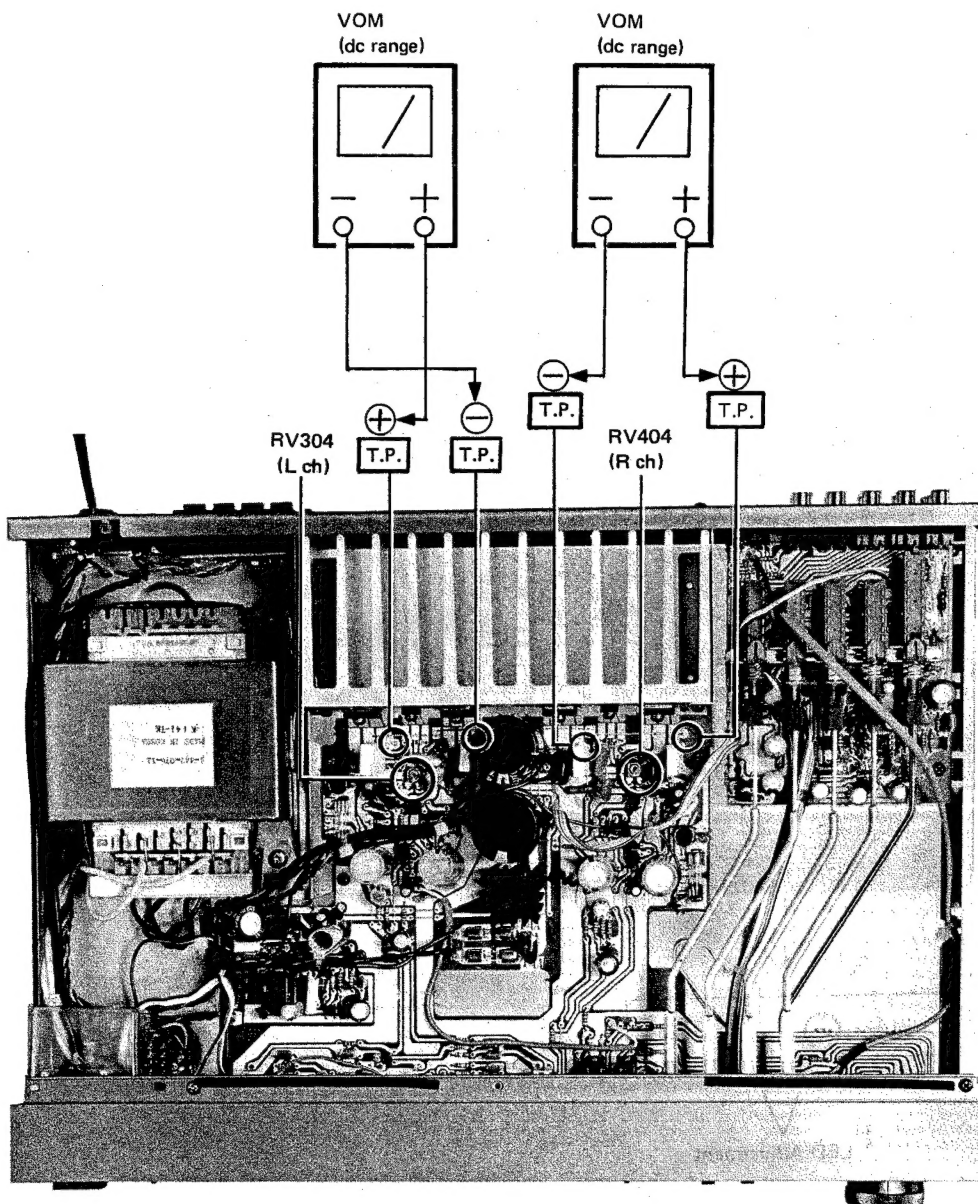
DC Bias Adjustment (with no signal input)

— L ch —

Adjust RV304 for 13 mV
dc reading on VOM

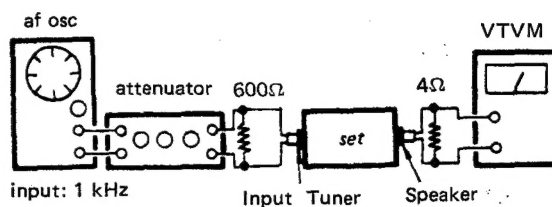
— R ch —

Adjust RV404 for 13 mV
dc reading on VOM

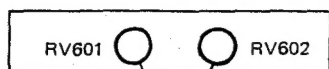
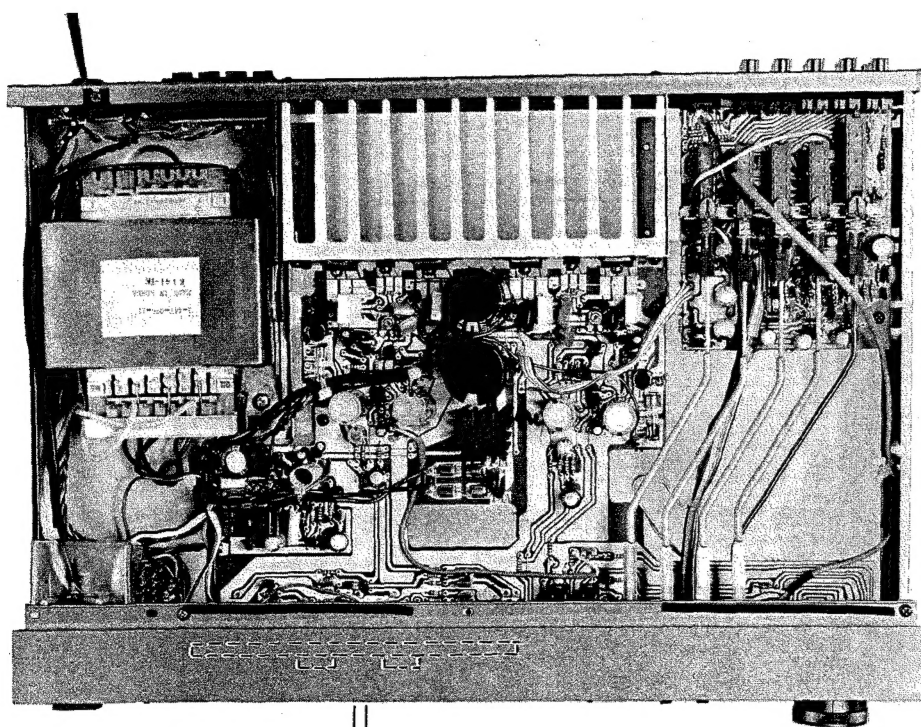
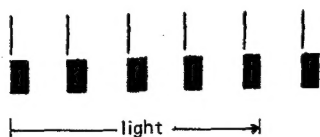


Indicator Sensitivity Adjustment

Procedure:



1. Turn the volume control fully clockwise.
2. Adjust the input level of the set for 5.2 V reading on the VTVM.
3. Adjust RV601 (L ch) and RV602 (R ch) so that untill first to fifth indicators are light.

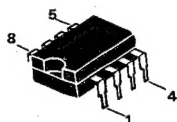


LED Adjustment

SECTION 4 DIAGRAMS

4-1: Replacement Semiconductors

IC101: TL4558P
IC601, 602: TL489CP



Q307, 309 } 2SD438F
Q407, 409 }
Q501: 2SD400F



Q306, 312 } 2SB560F
Q406, 412 }



Q101, 102 } 2SC2240BL
Q201, 202 }
Q304, 305 } 2SC2362G
Q404, 405 }
Q151, } 2SC536KG
Q551, 552 }
Q553, 554: 2SC536G



Q301, 302, 303 } 2SA1016G
Q401, 402, 403 }
Q555: 2SA608F
Q152: 2SA608KG



Q308, 408: 2SC1846R

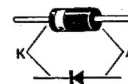


Q310, 410: 2SD896E

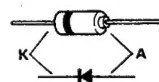


Q311, 411: 2SB776E

D502, 551: DS135E



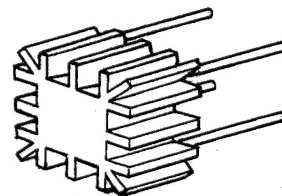
D310, 302, 303, } DS448
D401, 402, 403, }
D552, 617, 618 }
D503: GZA9.1L
D553, } GZA16L
D150, 151 }



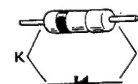
D101, 102, } SLP251D
D351, 352, }
D601 - D612 }



D501: D4BB10



D613 - D616: 1S188FM



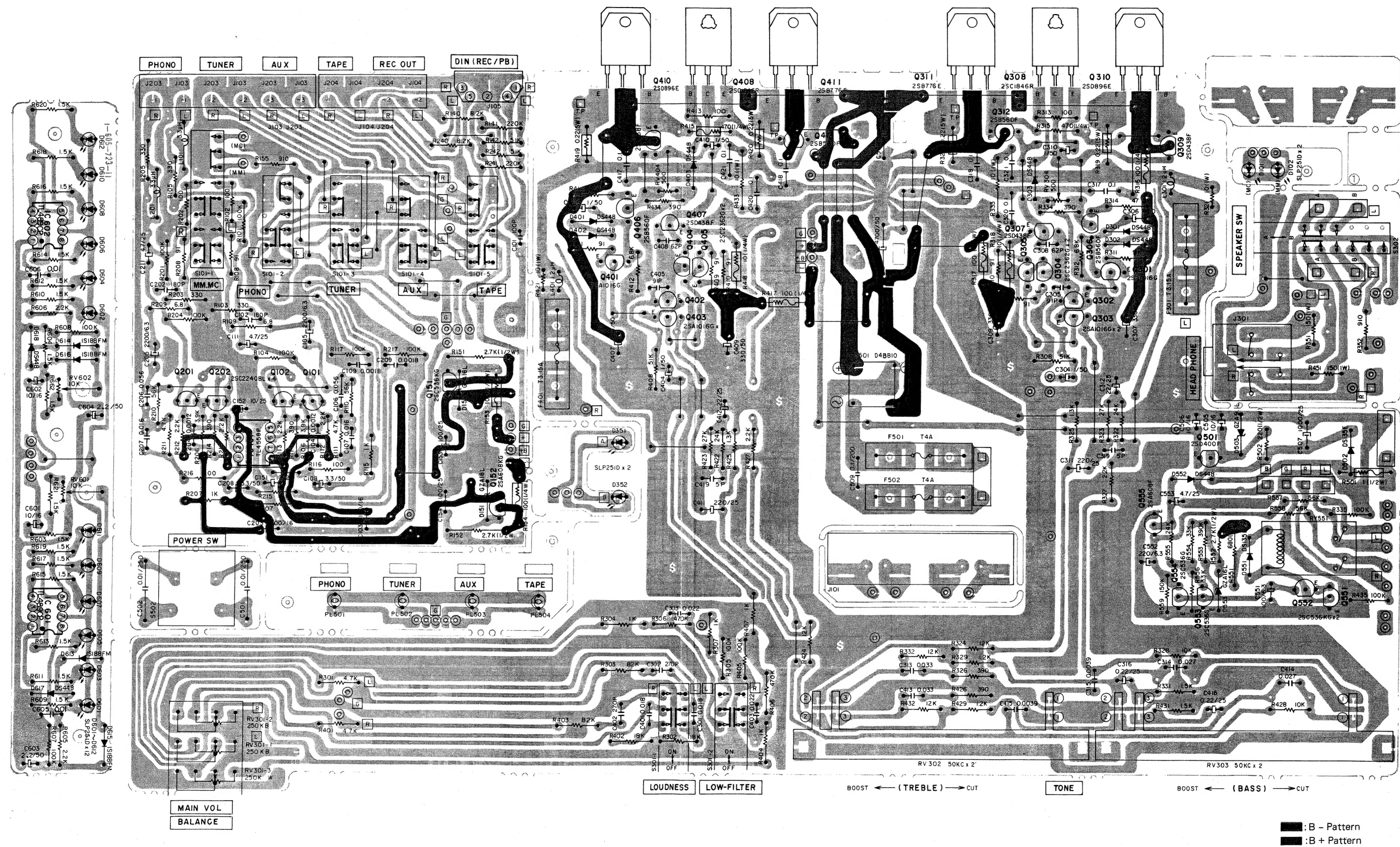
MEMO

MEMO

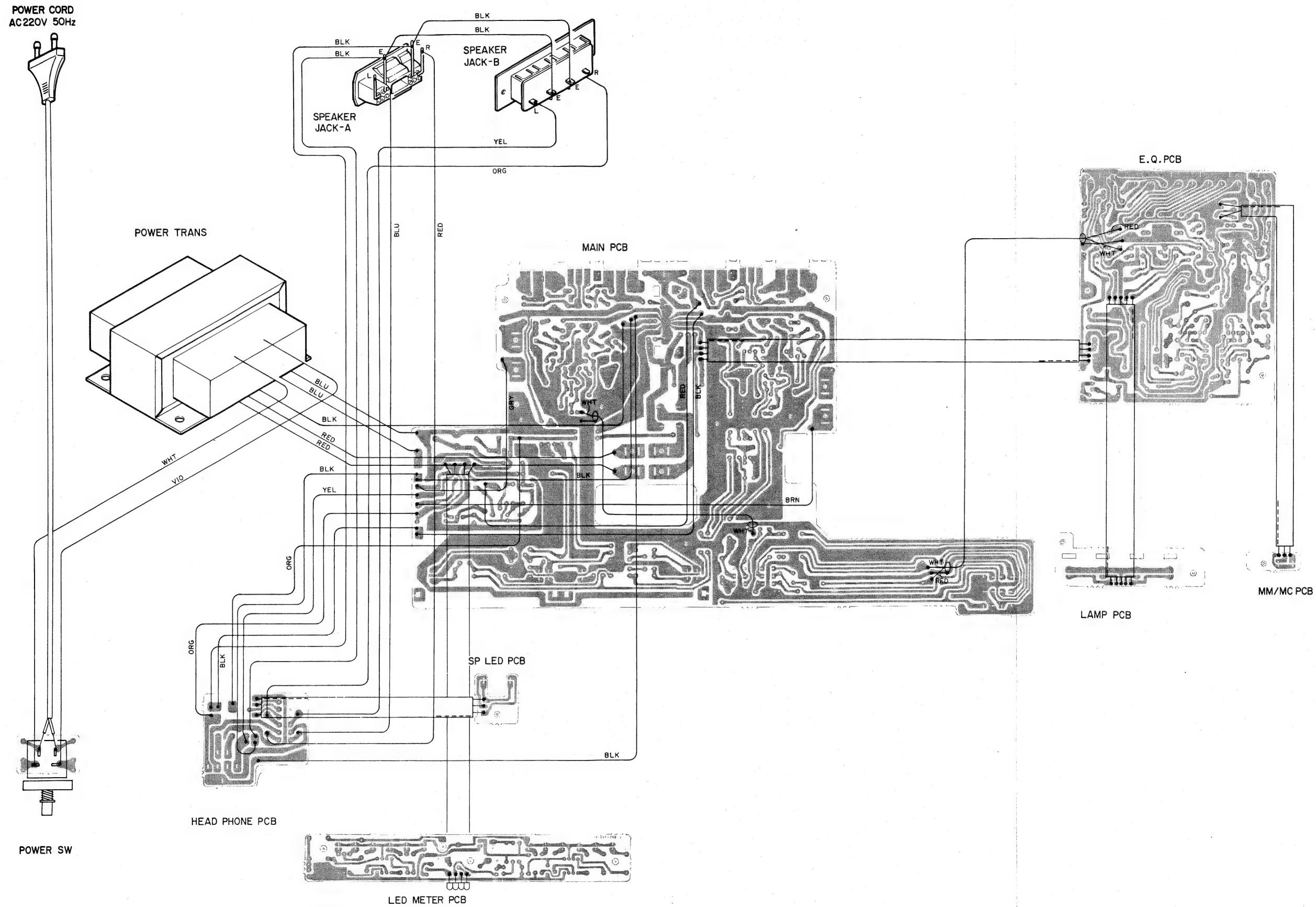
- 9 -



4-3: Mounting Diagrams

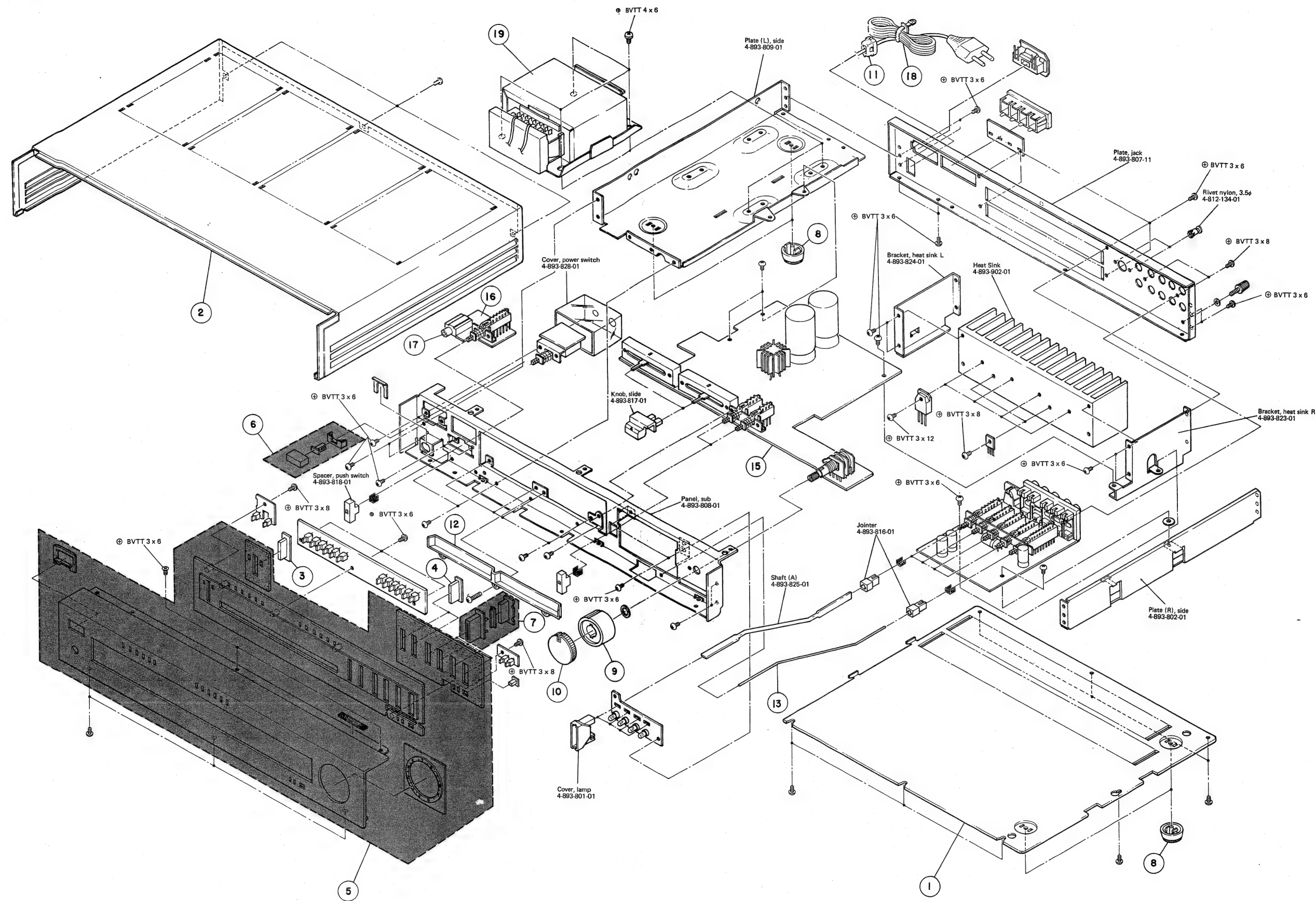


4-4: Wiring Diagrams



5-1: Exploded View

SECTION 5
EXPLODED VIEWS



SECTION 6 PARTS LIST

— Cabinet —

Illus. No.	Parts No.	Parts Name
1	4-875-156-01	Plate, bottom
2	4-895-173-21	Case
3	4-893-819-01	Knob, speaker (push)
4	4-893-906-01	Knob, function
5	A-4322-420-A	Panel Ass'y (fornt)
6		with Escutcheon, power knob Escutcheon Label Cushion, speaker Cushion, function cushion Panel, front
6	A-4490-110-A	Knob Ass'y, power
7	A-4490-111-A	Knob Ass'y band
8	X-3701-069-1	Foot Ass'y, M.F. with Mold, foot felt
9	X-4893-802-1	Knob Ass'y, balance
10	1-531-958-11	Knob Ass'y, volume
11	3-703-244-02	Bushing, cord
12	4-893-832-01	Spacer, tone
13	4-893-901-01	Shaft, (B) with Cap
14	A-4335-200-A	PC Board Ass'y
15	A-4351-288-A	Mounted PCBoard, Main
16	A-4409-554-A	Mounted PCBoard, headphone
17	1-507-729-11	Jack, large type
18	1-551-958-11	Cord, power
19	1-447-076-11	Transformer, power

— Accessories and Packing materials —

Parts No.	Description
3-701-630-01	Bag, polyethylene
3-783-666-01	Manual, instruction
4-893-811-01	Cushion (R)
4-893-812-01	Cushion (L)
4-893-839-01	Sheet, protection
4-893-844-01	Cushion, sub

Electrical Parts List

Ref. No.	Parts No.	Description
SEMICONDUCTORS		
— ICs —		
IC101	1-806-279-11	TL4558P
IC601, 602	8-759-904-89	TL489CP
— Transistors —		
Q101, 102 201, 202	8-729-224-02	2SC2240BL
Q151	1-806-032-11	2SC536K-G
Q152	1-806-269-41	2SA608K-G
Q301, 401 302, 402 303, 403	1-806-271-21	25A1016-G
Q304, 404 305, 405	1-806-276-21	2SC2362-G
Q306, 406 312, 412	1-806-272-31	2SB500-F
Q307, 407 309, 409	8-729-843-83	2S0438-F
Q308, 408	1-806-275-31	2SC1846-R
Q310, 410	1-806-278-21	2SD896-E
Q311, 411	1-806-274-21	2SB776-E
Q501	1-806-333-31	2SD400-F
Q551, 552	1-806-032-11	2SC536K-G
Q553, 554	1-800-830-11	2SC536-G
Q555	1-800-831-11	2SA608-F
— Diodes —		
D101, 102	8-719-902-52	SLP251D
D150, 151	1-806-266-11	ZENER, GZA16L
D301, 401 302, 402 303, 403 552	1-806-268-11	DS448
D501	8-719-504-01	D4BB10
D502, 551	1-806-267-11	DS135E
D503	8-719-191-25	RD9.1EB2
D551, 352	8-719-902-52	SLP251D
D553	1-806-266-11	ZENER, GZA16L
D601, 602 603, 604 605, 606 607, 608 609, 610 611, 612	8-719-902-52	SLP251D
D613, 614 615, 616	8-719-922-12	1S188AB
D617, 618	1-806-268-11	DS448

Ref. No.	Parts No.	Description
RESISTORS		
<i>All Resistors are in Ω. Common 1/4W Carbon Resistors are omitted. Refer to the list on Page 20 for their part numbers.</i>		
R319, 419 320, 420	1-217-156-11	0.22 Ω , 5W
RV301	1-228-369-11	VAR, CARBON 250K Ω 250K Ω /250K Ω
RV302, 303	1-228-370-11	VAR, SLIDE 50K Ω /50K Ω
RV601, 602	1-226-236-11	CARBON 10K Ω
CAPACITORS		
<i>All Capacitors are in μF and Ceramic unless otherwise noted. 50WV or less are not indicated excepted for electrolytics. Common Capacitors are omitted. Refer to the lists on Page 17 and 18 for their Part No.</i>		
C101	1-102-106-21	100PF, 50V
C109, 209	1-102-120-21	0.0018MF, 50V
C307, 407 309, 409	1-123-362-11	330, 50V
C501, 502	1-130-455-11	0.01MF, 250V
C503, 504	1-123-956-11	4700MF, 50V
MISCELLANEOUS		
F301, 401	1-532-237-11	Fuse, Time-Lag
F501, 502	1-532-350-11	Fuse, Time-Lag
J101	1-536-646-11	Terminal Board
J102	1-561-744-11	Socket, Connector
J103, 203	1-507-757-11	Jack, Pin 6P
J104, 204	1-507-652-11	Jack, Pin 4P
J105	1-509-922-11	Socket, Connector, Din
J301	1-507-729-11	Jack, Large type
JP333	1-535-200-31	Lead, Jamper
PL501, 502 503	1-518-483-11	Lamp, Pilot
S101	1-533-838-11	Switch, Push
S301	1-533-836-11	Switch, Push
S302	1-553-835-11	Switch, Push
S502	1-553-834-11	Switch, Push
	1-533-131-11	Holder, Fuse
	1-535-117-12	Terminal
	4-893-836-01	Terminal
	0-106-706-00	PC Board, FQ
	A-4409-554-A	Mounted PCB, Headphone
	1-535-139-11	Base Post
T501	1-447-076-11	Transformer, power

(3) Electrical Parts List — Common. —

ELECTROLYTIC CAPACITORS

Note: Circled letter (A to Z) are applicable to European models only.

CAP. (μF)	RATING → Use the high voltage rated one.					
	6.3 VOLT.	10 VOLT.	16 VOLT.	25 VOLT.	35 VOLT.	50 VOLT.
PART No.	PART No.	PART No.	PART No.	PART No.	PART No.	PART No.
0.47	→	→	→	→	→	1-121-726-00 (A)
1.0	→	→	→	→	→	1-121-391-00 (A)
2.2	→	→	→	→	→	1-121-450-00 (A)
3.3	→	→	→	→	→	1-121-393-00 (A)
4.7	→	→	→	→	→	1-121-396-00 (A)
10	→	→	1-121-651-00 (A)	1-121-398-00 (A)	→	1-121-738-00 (A)
22	→	→	1-121-479-00 (A)	1-121-480-00 (A)	1-121-662-00 (A)	1-121-152-00 (A)
33	→	→	1-121-403-00 (A)	1-121-404-00 (A)	1-121-652-00 (B)	1-121-405-00 (A)
47	→	1-121-352-00 (A)	1-121-409-00 (A)	1-121-410-00 (A)	1-121-653-00 (B)	1-121-411-00 (A)
100	→	1-121-414-00 (A)	1-121-415-00 (A)	1-121-416-00 (A)	1-121-357-00 (B)	1-121-417-00 (B)
220	1-121-411-9-00 (B)	1-121-420-00 (B)	1-121-421-00 (A)	1-121-422-00 (B)	1-121-261-00 (C)	1-121-423-00 (B)
330	1-121-751-00 (B)	1-121-805-00 (B)	1-121-521-00 (C)	1-121-654-00 (B)	1-121-655-00 (D)	1-121-656-00 (C)
470	1-121-424-00 (B)	1-121-425-00 (C)	1-121-426-00 (C)	1-121-733-00 (B)	1-121-361-00 (E)	1-121-810-00 (D)
1000	→	1-121-736-00 (C)	1-121-245-00 (D)	1-121-657-00 (D)	1-121-388-00 (E)	1-123-061-00 (F)
2200	1-121-658-00 (B)	1-121-659-00 (C)	1-121-660-00 (D)	1-123-067-00 (D)	1-121-984-00 (F)	→
3300	1-121-661-00 (D)	1-123-075-00 (E)	1-123-071-00 (F)	→	→	→

CAP. (μF)	100 VOLT.	160 VOLT.	250 VOLT.	350 VOLT.
	PART No.	PART No.	PART No.	PART No.
0.47	→	→	→	→
1.0	1-123-249-00 (A)	1-123-252-00 (A)	1-123-003-00 (B)	1-121-168-00 (B)
2.2	1-123-250-00 (A)	1-123-026-00 (B)	→	1-123-028-00 (B)
3.3	1-121-995-00 (A)	→	1-123-004-00 (B)	1-123-006-00 (C)
4.7	1-123-255-00 (A)	1-121-246-00 (B)	1-121-759-00 (B)	1-123-007-00 (D)
10	1-121-126-00 (B)	1-121-999-00 (B)	1-123-254-00 (C)	1-123-008-00 (D)
22	1-121-996-00 (C)	1-123-253-00 (C)	1-123-005-00 (D)	1-123-022-00 (D)
33	1-121-997-00 (C)	1-121-757-00 (C)	→	→
47	1-123-251-00 (C)	1-121-919-00 (C)	→	→
100	1-123-084-00 (E)	→	→	→

CERAMIC CAPACITORS (A)

RATING							
CAP. (pF)	50 VOLT.	CAP. (pF)	50 VOLT.	CAP. (pF)	50 VOLT.	CAP. (μF)	50 VOLT.
	PART No.		PART No.		PART No.		PART No.
0.5	1-101-837-00	22	1-102-959-00	150	1-101-361-00	0.001	1-102-074-00
0.75	1-101-586-00	24	1-102-960-00	160	1-101-367-00	0.0012	1-102-118-00
1.0	1-102-934-00	27	1-102-961-00	180	1-102-976-00	0.0015	1-102-119-00
1.5	1-101-576-00	30	1-102-962-00	200	1-102-977-00	0.0018	1-102-120-00
2.0	1-102-935-00	33	1-102-963-00	220	1-102-978-00	0.0022	1-102-121-00
3	1-102-936-00	36	1-102-964-00	240	1-102-979-00	0.0027	1-102-122-00
4	1-102-937-00	39	1-102-965-00	270	1-102-980-00	0.0033	1-102-123-00
5	1-102-942-00	43	1-102-966-00	300	1-102-981-00	0.0039	1-102-124-00
6	1-102-943-00	47	1-101-880-00	330	1-102-820-00	0.0047	1-102-125-00
7	1-102-944-00	51	1-101-882-00	360	1-102-821-00	0.0056	1-102-126-00
8	1-102-945-00	56	1-101-884-00	390	1-102-822-00	0.0068	1-102-127-00
9	1-102-946-00	62	1-101-886-00	430	1-102-823-00	0.0082	1-102-128-00
10	1-102-947-00	68	1-101-888-00	470	1-102-824-00	0.01	1-102-129-00
11	1-102-948-00	75	1-101-890-00	510	1-101-059-00	0.022	1-101-005-00
12	1-102-949-00	82	1-102-971-00	560	1-102-115-00	0.047	1-101-006-00
13	1-102-950-00	91	1-102-972-00	680	1-102-116-00		
15	1-102-951-00	100	1-102-973-00	820	1-102-117-00		
16	1-102-952-00	110	1-102-815-00				
18	1-102-953-00	120	1-102-816-00				
20	1-102-958-00	130	1-101-081-00				

0.001μF = 1,000pF

CERAMIC (SEMICONDUCTOR) CAPACITORS (A)

CAP. (μF)	RATING → Use the high voltage rated one.			
	25 VOLT.	50 VOLT.	25 VOLT.	50 VOLT.
PART No.	PART No.	PART No.	PART No.	PART No.
0.001	→	1-161-039-00	0.018	1-161-016-00
0.0012	→	1-161-040-00	0.022	1-161-017-00
0.0015	→	1-161-041-00	0.027	1-161-018-00
0.0018	→	1-161-042-00	0.033	1-161-019-00
0.0022	→	1-161-043-00	0.039	1-161-020-00
0.0027	→	1-161-044-00	0.047	1-161-021-00
0.0033	→	1-161-045-00	0.056	→
0.0039	→	1-161-046-00	0.068	→
0.0047	→	1-161-047-00	0.082	1-161-024-00
0.0056	→	1-161-048-00	0.1	1-161-025-00
0.0068	→	1-161-049-00	→	→
0.0082	1-161-012-00	1-161-050-00	→	→
0.01	1-161-013-00	1-161-051-00	→	→
0.012	→	1-161-052-00	→	→
0.015	1-161-015-00	1-161-053-00	→	→

MYLAR CAPACITORS (A)

Note: Circled letters (A to Z) are applicable to European models only.

CAP. (μF)	RATING					
	50 VOLT.	100 VOLT.	200 VOLT.	50 VOLT.	100 VOLT.	200 VOLT.
PART No.	PART No.	PART No.	PART No.	PART No.	PART No.	PART No.
0.001	1-108-227-00	1-108-365-00	1-108-409-00	0.01	1-108-239-00	1-108-421-00
0.0012	1-108-351-00	1-108-366-00	1-108-410-00	0.012	1-108-357-00	1-108-422-00
0.0015	1-108-228-00	1-108-367-00	1-108-411-00	0.015	1-108-240-00	1-108-423-00
0.0018	1-108-352-00	1-108-368-00	1-108-412-00	0.018	1-108-358-00	1-108-424-00
0.0022	1-108-230-00	1-108-369-00	1-108-413-00	0.022	1-108-242-00	1-108-425-00
0.0027	1-108-353-00	1-108-370-00	1-108-414-00	0.027	1-108-359-00	1-108-426-00
0.0033	1-108-232-00	1-108-371-00	1-108-415-00	0.033	1-108-244-00	1-108-427-00
0.0039	1-108-354-00	1-108-372-00	1-108-416-00	0.039	1-108-360-00	1-108-428-00
0.0047	1-108-234-00	1-108-373-00	1-108-417-00	0.047	1-108-246-00	1-108-429-00
0.0056	1-108-355-00	1-108-374-00	1-108-418-00	0.056	1-108-361-00	1-108-430-00
0.0068	1-108-237-00	1-108-375-00	1-108-419-00	0.068	1-108-249-00	1-108-431-00
0.0082	1-108-356-00	1-108-376-00	1-108-420-00	0.082	1-108-362-00	1-108-432-00

TANTALUM CAPACITORS

CAP. (μF)	RATING → Use the high voltage rated one.						
	3.15 VOLT.	6.3 VOLT.	10 VOLT.	16 VOLT.	20 VOLT.	25 VOLT.	35 VOLT.
PART No.	PART No.	PART No.	PART No.	PART No.	PART No.	PART No.	PART No.
0.01	→	→	→	→	→	→	1-131-396-00 (B)
0.015	→	→	→	→	→	→	1-131-397-00 (B)
0.022	→	→	→	→	→	→	1-131-398-00 (B)
0.033	→	→	→	→	→	→	1-131-399-00 (B)
0.047	→	→	→	→	→	→	1-131-400-00 (B)
0.068	→	→	→	→	→	→	1-131-401-00 (B)
0.1	→	→	→	→	→	→	1-131-402-00 (B)
0.15	→	→	→	→	→	→	1-131-403-00 (B)
0.22	→	→	→	→	→	→	1-131-404-00 (B)
0.33	→	→	→	→	→	→	1-131-405-00 (B)
0.47	→	→	→	→	→	→	1-131-406-00 (B)
0.68	→	→	→	→	→	→	1-131-407-00 (B)
1.0	→	→	→	→	→	→	1-131-408-00 (B)
1.5	→	→	→	→	→	→	1-131-409-00 (B)
2.2	1-131-424-00 (B)	1-131-421-00 (B)	1-131-419-00 (B)	1-131-416-00 (B)	1-131-414-00 (B)	1-131-355-00 (B)	1-131-349-00 (B)
3.3	→	1-131-422-00 (B)	→	1-131-417-00 (B)	1-131-362-00 (B)	1-131-356-00 (B)	1-131-350-00 (B)
4.7	1-131-425-00 (B)	→	1-131-420-00 (B)	1-131-369-00 (B)	1-131-363-00 (B)	1-131-357-00 (B)	1-131-351-00 (C)
6.8	→	1-131-423-00 (B)	1-131-376-00 (B)	1-131-370-00 (B)	1-131-364-00 (B)	1-131-358-00 (C)	1-131-352-00 (C)
10	1-131-426-00 (B)	1-131-383-00 (B)	1-131-377-00 (B)	1-131-371-00 (B)	1-131-365-00 (C)	1-131-359-00 (C)	1-131-353-00 (D)
15	1-131-390-00 (B)	1-131-384-00 (B)	1-131-378-00 (B)	1-131-372-00 (B)	1-131-366-00 (C)	1-131-360-00 (D)	→
22	1-131-391-00 (B)	1-131-385-00 (B)	1-131-379-00 (C)	1-131-373-00 (C)	1-131-367-00 (D)	→	→
33	1-131-392-00 (B)	1-131-386-00 (C)	1-131-380-00 (C)	1-131-374-00 (D)	→	→	→
47	1-131-393-00 (C)	1-131-387-00 (C)	1-131-381-00 (D)	→	→	→	→
68	1-131-394-00 (D)	1-131-388-00 (C)	→	→	→	→	→
100	1-131-395-00 (D)	→	→	→	→	→	→

TANTALUM CAPACITORS

CAP. (μF)	RATING					
	3 VOLT.	6.3 VOLT.	10 VOLT.	16 VOLT.	20 VOLT.	35 VOLT.
PART No.	PART No.	PART No.	PART No.	PART No.	PART No.	PART No.
0.033	→	→	→	→	→	1-131-273-00 (E)
0.047	→	→	→	→	→	1-131-274-00 (E)
0.068	→	→	→	→	→	1-131-275-00 (E)
0.1	→	→	→	→	→	1-131-276-00 (D)
0.15	→	→	→	→	→	1-131-277-00 (D)
0.22	→	→	→	→	→	1-131-278-00 (D)
0.33	→	→	→	→	→	1-131-279-00 (D)
0.47	→	→	1-131-169-00 (D)	→	→	1-131-280-00 (D)
0.68	→	→	1-131-254-00 (D)	1-131-258-00 (D)	→	1-131-281-00 (D)
1.0	→	→	→	→	→	1-131-282-00 (D)
1.5	→	1-131-250-00 (D)	→	→	→	1-131-283-00 (E)
2.2	→	→	→	1-131-259-00 (D)	→	1-131-284-00 (E)
3.3	→	→	1-131-255-00 (D)	→	→	→
4.7	→	1-131-251-00 (E)	1-131-171-00 (D)	→	→	→
6.8	→	→	→	1-131-260-00 (D)	1-131-271-00 (E)	→
10	→	→	1-131-256-00 (D)	→	→	→
15	→	1-131-252-00 (D)	→	1-131-261-00 (E)	→	→
22	→	→	1-131-257-00 (E)	→	→	→
33	1-131-176-00 (D)	1-131-253-00 (E)	1-131-173-00 (C)	→	→	→
47	1-131-288-00 (F)	1-131-174-00 (D)	→	→	→	→
100	1-131-177-00 (D)	→	→	→	→	→

V235

V235

MEMO

1/4 WATT CARBON RESISTORS (A) Note: Circled letter (A) is applicable to European models only.

Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.
1.0	1-246-401-00	10	1-246-425-00	100	1-246-449-00	1.0k	1-246-473-00	10k	1-246-497-00	100k	1-246-521-00	1.0M	1-246-545-00
1.1	1-246-402-00	11	1-246-426-00	110	1-246-450-00	1.1k	1-246-474-00	11k	1-246-498-00	110k	1-246-522-00	1.1M	1-210-814-00
1.2	1-246-403-00	12	1-246-427-00	120	1-246-451-00	1.2k	1-246-475-00	12k	1-246-499-00	120k	1-246-523-00	1.2M	1-210-815-00
1.3	1-246-404-00	13	1-246-428-00	130	1-246-452-00	1.3k	1-246-476-00	13k	1-246-500-00	130k	1-246-524-00	1.3M	1-210-816-00
1.5	1-246-405-00	15	1-246-429-00	150	1-246-453-00	1.5k	1-246-477-00	15k	1-246-501-00	150k	1-246-525-00	1.5M	1-210-817-00
1.6	1-246-406-00	16	1-246-430-00	160	1-246-454-00	1.6k	1-246-478-00	16k	1-246-502-00	160k	1-246-526-00	1.6M	1-210-818-00
1.8	1-246-407-00	18	1-246-431-00	180	1-246-455-00	1.8k	1-246-479-00	18k	1-246-503-00	180k	1-246-527-00	1.8M	1-210-819-00
2.0	1-246-408-00	20	1-246-432-00	200	1-246-456-00	2.0k	1-246-480-00	20k	1-246-504-00	200k	1-246-528-00	2.0M	1-210-820-00
2.2	1-246-409-00	22	1-246-433-00	220	1-246-457-00	2.2k	1-246-481-00	22k	1-246-505-00	220k	1-246-529-00	2.2M	1-210-821-00
2.4	1-246-410-00	24	1-246-434-00	240	1-246-458-00	2.4k	1-246-482-00	24k	1-246-506-00	240k	1-246-530-00	2.4M	1-244-754-00
2.7	1-246-411-00	27	1-246-435-00	270	1-246-459-00	2.7k	1-246-483-00	27k	1-246-507-00	270k	1-246-531-00	2.7M	1-244-755-00
3.0	1-246-412-00	30	1-246-436-00	300	1-246-460-00	3.0k	1-246-484-00	30k	1-246-508-00	300k	1-246-532-00	3.0M	1-244-756-00
3.3	1-246-413-00	33	1-246-437-00	330	1-246-461-00	3.3k	1-246-485-00	33k	1-246-509-00	330k	1-246-533-00	3.3M	1-244-757-00
3.6	1-246-414-00	36	1-246-438-00	360	1-246-462-00	3.6k	1-246-486-00	36k	1-246-510-00	360k	1-246-534-00	3.6M	1-244-758-00
3.9	1-246-415-00	39	1-246-439-00	390	1-246-463-00	3.9k	1-246-487-00	39k	1-246-511-00	390k	1-246-535-00	3.9M	1-244-759-00
4.3	1-246-416-00	43	1-246-440-00	430	1-246-464-00	4.3k	1-246-488-00	43k	1-246-512-00	430k	1-246-536-00	4.3M	1-244-760-00
4.7	1-246-417-00	47	1-246-441-00	470	1-246-465-00	4.7k	1-246-489-00	47k	1-246-513-00	470k	1-246-537-00	4.7M	1-244-761-00
5.1	1-246-418-00	51	1-246-442-00	510	1-246-466-00	5.1k	1-246-490-00	51k	1-246-514-00	510k	1-246-538-00	5.1M	1-244-762-00
5.6	1-246-419-00	56	1-246-443-00	560	1-246-467-00	5.6k	1-246-491-00	56k	1-246-515-00	560k	1-246-539-00		
6.2	1-246-420-00	62	1-246-444-00	620	1-246-468-00	6.2k	1-246-492-00	62k	1-246-516-00	620k	1-246-540-00		
6.8	1-246-421-00	68	1-246-445-00	680	1-246-469-00	6.8k	1-246-493-00	68k	1-246-517-00	680k	1-246-541-00		
7.5	1-246-422-00	75	1-246-446-00	750	1-246-470-00	7.5k	1-246-494-00	75k	1-246-518-00	750k	1-246-542-00		
8.2	1-246-423-00	82	1-246-447-00	820	1-246-471-00	8.2k	1-246-495-00	82k	1-246-519-00	820k	1-246-543-00		
9.1	1-246-424-00	91	1-246-448-00	910	1-246-472-00	9.1k	1-246-496-00	91k	1-246-520-00	910k	1-246-544-00		

HARDWARE NOMENCLATURE

Screw:

P 3 x 10

L: Length in mm
D: Diameter in mm
Type of head

Indicated slotted-head only.

Unless otherwise indicated, it means cross-recessed head (Phillips type).



Nut, Washer, Retaining ring:

N 3

— Diameter of usable screw or shaft
— Reference designation

Reference Designation	Shape	Description	Remarks
SCREWS			
P		pan-head screw	binding-head (B) screw for replacement
PWH		pan-head screw with washer face	binding-head (B) screw and flat washer for replacement
PS PSP		pan-head screw with spring washer	binding-head (B) screw and spring washer for replacement
PSW PSPW		pan-head screw with spring and flat washers	binding-head (B) screw and spring and flat washers for replacement
R		round-head screw	binding-head (B) screw for replacement
K		flat-countersunk-head screw	
RK		oval-countersunk-head screw	
B		binding-head screw	
T		truss-head screw	binding-head (B) screw for replacement
F		flat-fillister-head screw	
RF		fillister-head screw	
BV		brazer-head screw	

Reference Designation	Shape	Description	Remarks
SELF-TAPPING SCREWS			
TA		self-tapping screw	ex: TA, P 3 x 10
PTP		pan-head self-tapping screw	binding-head self-tapping (TA, B) screw for replacement
PTPWH		pan-head self-tapping screw with washer face	binding-head self-tapping (TA, B) screw and flat washer for replacement
PTTWH		pan-head thread-rolling screw with washer face	binding-head (B) screw and flat washer for replacement
SET SCREWS			
SC		set screw	
SC		hexagon-socket set screw	ex: SC 2.6 x 4, hexagon socket
NUT			
N		nut	
WASHERS			
W		flat washer	
SW		spring washer	
LW		internal-tooth lock washer	ex: LW3, internal
LW		external-tooth lock washer	ex: LW3, external
RETAINING RINGS			
E		retaining ring	
G		grip-type retaining ring	

WEGA

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